Dolly, J.O., et al., Isoforms of SNARE Molecules and the Uses Thereof in Modulation of Cellular Exocytosis

AMENDMENTS

Amendments to the Claims

1-47. (Canceled)

48. (Currently amended) A method of treating poisoning by a clostridial toxin in a patient in need thereof, the method comprising the step of administering an effective amount of a toxin-resistant SNAP-25 or a toxin-inhibitory SNAP-25 to the patient;

wherein the toxin-resistant SNAP-25 is a SNAP-25<u>b</u> variant having at least 80% identity to SEQ ID NO: 42 that is capable of supporting Ca²⁺-mediated exocytosis performing substantially the equivalent function to a naturally-occurring SNAP-25, but resistant to proteolysis by the clostridial toxin;

wherein the toxin-inhibitory SNAP-25 is a SNAP-25<u>b</u> variant having at least 80% identity to SEQ ID NO: 42 that is capable of supporting Ca²⁺-mediated exocytosis, performing substantially the equivalent function to a naturally-occurring SNAP-25, but further capable of inhibiting the protease activity of the clostridial toxin;

wherein administration of the toxin-resistant SNAP-25 or the toxin-inhibitory SNAP-25 produces a clinically useful or significant reduction in a symptom of poisoning caused by the clostridial toxin in the patient suffering from clostridial toxin poisoning.

49. (Canceled)

50. (Currently amended) A method of preventing poisoning by a clostridial toxin in a patient in need thereof, the method comprising the step of administering an effective amount of a toxin-resistant SNAP-25 or a toxin-inhibitory SNAP-25 to the patient;

wherein the toxin-resistant SNAP-25 is a SNAP-25<u>b</u> variant having at least 80% identity to SEQ ID NO: 42 that is capable of supporting Ca²⁺-mediated exocytosis performing

substantially the equivalent function to a naturally occurring SNAP-25, but resistant to proteolysis by the clostridial toxin;

wherein the toxin-inhibitory SNAP-25 is a SNAP-25<u>b</u> variant having at least 80% identity to SEQ ID NO: 42 that is capable of supporting Ca²⁺-mediated exocytosis, performing substantially the equivalent function to a naturally-occurring SNAP-25, but further capable of inhibiting the protease activity of the clostridial toxin;

wherein administration of the toxin-resistant SNAP-25 or the toxin-inhibitory SNAP-25 produces a clinically useful or significant reduction in a symptom of poisoning caused by the clostridial toxin in the patient at risk of poisoning when exposed to the clostridial toxin.

51-52. (Canceled)

- 53. (Previously presented) The method of either claim 48 or claim 50, wherein the clostridial toxin is a botulinum toxin type A.
- 54. (Previously presented) The method of either claim 48 or claim 50, wherein the clostridial toxin is botulinum toxin type C1.
- 55. (Previously presented) The method of either claim 48 or claim 50, wherein the clostridial toxin is botulinum toxin type E.

56. (Canceled)

57. (Currently amended) The method of either claim 48 or claim 50, wherein the toxin-resistant SNAP-25 or the toxin-inhibitory SNAP-25 comprises a replacement of a residue equivalent to residue Q197 of SEQ ID NO: 42 full length SNAP-25 by a residue other than Q:

wherein residue 197 corresponds to the P1 position flanking the bond cleaved by botulinum toxin type A

- 58. (Currently amended) The method of either claim 48 or claim 50, wherein the toxin-resistant SNAP-25 or the toxin-inhibitory SNAP-25 comprises a replacement of a residue equivalent to residue R198 of SEQ ID NO: 42 full length SNAP-25 by a residue other than R;
 - wherein residue 198 corresponds to the P'1 position flanking the bond cleaved by botulinum toxin type A or the P1 position flanking the bond cleaved by botulinum toxin type C1.
- 59. (Currently amended) The method of claim 57, wherein the residue equivalent to residue Q197 of <u>SEQ ID NO: 42-full length SNAP-25</u> is replaced by a residue selected from the group consisting of A, K and W.
- 60. (Currently amended) The method of claim 58, wherein the residue equivalent to R198 of SEQ ID NO: 42 full length human SNAP-25 is replaced by a residue selected from the group consisting of A, T, K, H and W.
- 61. (Cancelled)
- 62. (Previously presented) The method of either claim 48 or claim 50, wherein the clostridial toxin poisoning is botulism.
- 63-68. (Canceled)
- 69. (Previously presented) The method of either claim 48 or claim 50, wherein the patient is an infant.
- 70. (Previously presented) The method of either claim 48 or claim 50, the patient is an adult.
- 71-72 (Canceled)

Application No.: 10/049,967 17790 (BOT)
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Exocytosis

73. (Previously presented) The method of either claim 48 or claim 50, further comprising the step of treating the patient with an inhibitor of the clostridial toxin.

- 74. (Canceled)
- 75. (Previously presented) The method of claim 73, wherein the clostridial toxin inhibitor is N-acetyl-CRATKML-carboxamide.
- 76-103. (Canceled)
- 104. (New) The method of either claim 48 or claim 50, wherein the toxin-resistant SNAP-25 or the toxin-inhibitory SNAP-25 comprises of amino acids 142-202 of SEQ ID NO: 42.
- 105. (New) The method of either claim 48 or claim 50, wherein the toxin-resistant SNAP-25 or the toxin-inhibitory SNAP-25 consists of amino acids 142-202 of SEQ ID NO: 42, amino acids 142-203 of SEQ ID NO: 42, amino acids 142-204 of SEQ ID NO: 42, amino acids 142-205 of SEQ ID NO: 42, or amino acids 142-206 of SEQ ID NO: 42.